CLAIMS

We claim:

1) A method of planarizing a metal surface in the fabrication of integrated circuit interconnects comprising:

a) introducing a protecting fluid onto said metal surface; and,

b) dispersing said protecting fluid across said metal surface; and,

c) introducing an etching solution onto said metal surface, whereby the viscosity of said protecting fluid exceeds that of said etching solution thereby hindering etching of said surface in regions of said surface occupied by said protecting layer; and,

d) etching said metal surface to planarity.

2) A method as in claim 1 wherein said protecting fluid lacks oxidants capable of etching said metal surface.

3) A method as in claim 2 wherein said introduction of said protecting fluid onto said metal surface is in sufficient quantity to provide preferential protection to depressed regions of said metal surface.

4) A method as in claim 3 wherein said protecting fluid contains dissolved therein a saturating amount of ion of the metal comprising said metal surface.

5) A method as in claim 4 wherein said metal is copper.

6) A method as in claim 5 wherein said protecting fluid is phosphoric acid containing a saturating amount of copper ions dissolved therein.

7) A method as in claim 1 wherein said protecting fluid and said etching solution are introduced onto said metal surface substantially simultaneously.

8) A precursor for an integrated circuit comprising:

a) insulating dielectric layer; and,

b) barrier layer; and,

c) conductor; and,

d) protecting fluid; and,

e) etching fluid whereby the viscosity of said protecting fluid exceeds the viscosity of said etching fluid.

9) The precursor of claim 8 wherein said barrier layer is tantalum/tantalum nitride.

10) The precursor of claim 8 wherein said conductor is copper.